

ment, a sincere effort is being made to provide medical care for this constantly enlarging group. Doctor David's outline is concerned with the single male group. It might not be inappropriate to mention here that the city and county of San Francisco, through its Department of Public Health, offers the services of six city physicians who attend the indigent sick in their homes, as well as the facilities of the overcrowded San Francisco Hospital in cases demanding hospitalization.

The second condition is that of low morbidity rates. As Doctor David points out, due to the conditions prevalent in the quarters available for housing these men, upper respiratory infections occurred rather frequently, as would be expected. Poor facilities for change and cleansing of clothing and for adequate personal hygiene under conditions in which close contact is unavoidable, accounts for the occurrence of impetigo, scabies, and pediculosis. One of the most interesting statements in Doctor David's paper calls attention to the low incidence of venereal disease, which certainly would not be expected in the group studied. In the Department of Public Health Venereal Disease Center, the occurrence of gonorrhea and syphilis in males has increased during the last few years so that our estimates of the true incidence would be at variance with Doctor David's. The possibilities of true outbreaks of communicable diseases in these men, however, are always existent, and this potential source of infection, for the community, is to be watched. It is remarkable that in this group of men, gathered as they are, from many sections, from many associations and contacts, from all social and economic strata, placed under crowded living conditions which are unfamiliar to most of them, there have been no outbreaks of cerebrospinal fever, acute anterior poliomyelitis, variola, scarlet fever, or other of the major acute communicable diseases. Mild upper respiratory infections, dermatomycoses, impetigo, and an occasional instance of gonorrhea, or syphilis, or amebic dysentery—and these in a low incidence. We are very fortunate. And these conditions confirm the dictum often referred to that "the general health conditions during the depression are better, even, than during the days of prosperity."

DERMATOLOGIC DIAGNOSIS*

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I

THE BASIC PRINCIPLES AND TECHNIQUE

IF one should attempt to evaluate the present status of dermatologic practice from the point of view of the general practitioner, the following would seem to be the correct presentation. The general profession seems to realize that skin diseases constitute an enormous clinical domain extending over and intertwined with every branch of clinical medicine. Hence the practical value of studying skin diseases would seem to be self-evident. Yet only very few practitioners avail themselves of the opportunity to take a post-graduate dermatologic training.

The main reason for this is the peculiar notion prevailing in the mind of the rank and file of the profession that skin diseases are only of minor importance as they but exceptionally lead to dramatic medical and surgical complications and death. The common impression among practitioners also is that clinical dermatology is a combi-

nation of, shall we say, occult and peculiar science and empirical art requiring a long apprenticeship acquired in practice rather than a science based on theoretical principles and laws.

Most medical students receive less clinical training in dermatology than in any other major subject. As a result of this attitude is the notorious weakness, nay helplessness, of general practitioners in the clinical handling of skin diseases.

DIAGNOSTIC FAILURES

Between diagnostic and therapeutic errors the first ones are more numerous and important and are harder to avoid, since with a correct diagnosis the therapeutic suggestions can be gleaned from the testbooks with some degree of success; on the other hand, for the reasons to be outlined below, no skin atlas can help in making a diagnosis of an individual dermatologic case.

It is a common observation of every dermatologist doing reference and consultation work that the general practitioner just as often makes diagnostic errors in simple and common dermatoses, such as scabies, epidermomycoses, erythema multiforme, etc., as in rare and unusual dermatoses.

This fact is a conclusive proof that his diagnostic weakness is due not so much to the lack of specialized clinical experience as to the lack of the correct method of arriving at diagnosis; in other words, to faulty old methods of teaching dermatologic diagnosis. It is the purpose of this paper to present in a concise and practical manner the basic principles and technique of the differential diagnosis of dermatoses most commonly observed in general practice.

CLINICAL VALUE OF MORPHOLOGY IN DERMATOLOGIC DIAGNOSIS

Historically, morphology is the most important element, since it is the basis upon which the structure of dermatologic research was started and continued throughout the whole first stage of its development. In the beginning skin diseases, very much like flowers, were classified and identified by the general design and pattern of the morphologic picture and its various details.

With the growth of dermatologic experience the defectiveness of such classification became apparent. It has been found that the morphologic design and pictorial image of any dermatosis is seldom the same in different patients and that it seldom remains stationary throughout the whole course of the same case, because of the development of secondary lesions, complications, and numerous incidental details varying in individual cases.

This led dermatologic research into the second *histopathologic period*. It was attempted to identify and classify individual dermatoses on the basis of the microscopic histopathologic changes in the skin. Several decades of histopathologic study proved to be only partially successful. This new method has added the possibility of differentiating dermatoses on their pathologic changes and locating them in different pathologic groups, such as

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inflammatory groups, granulomata, tumors, etc. But it proved practically impossible to differentiate the microscopic picture of many inflammatory dermatoses. It is the consensus of opinion that the histologic picture can give a definite diagnosis only in a small minority of cases and that histopathologic study can be regarded only as a minor factor in the dermatologic diagnosis.

The morphologic and histopathologic periods of dermatologic research have been followed by the *biologic period* which has proved the most productive of them all for the understanding of pathogenesis. All the resources of the modern laboratory have been utilized to enrich the technique of dermatologic diagnosis. These new methods have broadened the scope of the dermatologic research, have integrated it into the body of general medicine and have rendered dermatology equal in scope and content to any other branch of clinical medicine. Thus the new concept of etiologic diagnosis has been evolved and put on a rational basis.

MORPHOLOGIC VERSUS ETIOLOGIC DIAGNOSIS

A new relationship between morphology and etiology of dermatoses has been established. A new principle was enunciated by the French dermatologist Benier that *different etiologic factors may produce skin lesions of identical morphology, and, vice versa, one etiologic factor may produce skin lesions of various morphology*. It would seem in view of this that diagnosis of skin lesions on morphologic data alone should prove a useless, artificial and technically difficult procedure.

Strange to say, clinical experience has refuted this theoretical expectation. The internist, in spite of his better training in the systemic study of the patient affected with a skin disease, still has to call on the dermatologist for a dermatologic orientation. The reason for this is that, before any systemic study or treatment of dermatosis is undertaken, a correct interpretation of the skin lesions and their at least approximate location in some nosologic group should be made. For instance, the clinician must be able at least to determine whether the skin lesions are of local or systemic origin. This ability of the correct interpretation of skin lesions rests at present in the dermatologist because of his special training in this particular direction.

In other words, morphologic diagnosis has lost its original claim of the exact identification of dermatoses on their general pictorial design and pattern, but it still remains the only diagnostic method which can place dermatoses in the proper nosologic group and give definite clues and guidance for the study and treatment of the case.

OBJECT OF THIS PAPER

Because of this, no clinician is capable of diagnosing and intelligently handling a skin case without possessing the minimum knowledge of the basic principles and technique of the morphologic differential dermatologic diagnosis. To supply this minimum in a concise and practical manner is the purpose of this contribution.

DERMATOLOGIC DIAGNOSIS IS OBJECTIVE

Before entering the technique of differentiation of individual dermatoses it is proper to consider a few general basic principles of dermatologic diagnostic technique.

The first principle is that dermatologic diagnosis is essentially objective. It is made much more on the study of the present skin lesions, of the composite morphology, and of the clinical evolution of the lesions than on the subjective statements gleaned from the patients and the history.

Dermatologic diagnosis has one peculiar advantage over the other branches of clinical medicine. It does not require a complicated and refined technique and apparatus to elicit symptoms and objective findings on which to base a positive and differential diagnosis. Like an x-ray picture, it needs only to be read and correctly interpreted.

This eliminates to a great extent and renders unnecessary the subjective element, as is revealed in the complaints and statements of the patient. The routine questions addressed to the patient, "How long have you had it?" "Does it itch?" are useless and superfluous in most cases. The appearance of the skin lesions themselves gives a better and more unbiased information than the patient could possibly state it. The presence or absence of scratch marks and excoriations answers the question of itching. Acutely inflamed or sluggish, chronic infiltrated lesions give a fairly correct estimation of the acute, subacute or chronic stage of the disease. The knowledge of the exact number of days, weeks or months is of little clinical importance.

VALUE OF HISTORY

In no other detail of diagnostic technique is revealed the difference of methodology between dermatology and internal medicine as strikingly as in the evaluation and utilization of a history for diagnostic purposes.

In internal medicine a complete and thorough history is the very first step, and any attempt to make a diagnosis without a history is simply unthinkable and impossible.

Strange as it may sound, it is safe to state that a well-trained dermatologist is able to make a morphologic diagnosis in over 50 per cent of cases without asking a single question.

MORPHOLOGIC VERSUS ETIOLOGIC DIAGNOSIS

It is important to draw a distinction between morphologic and etiologic diagnosis. They coincide only in a small number of dermatoses. For instance, morphologic diagnosis of scabies, pyoderma, syphilis, tuberculide, epidermophytoses or dermatitis factitia implies a definite etiologic conception and a definite therapeutic suggestion.

On the other hand, a morphologic designation of eczema, psoriasis, urticaria, dermatitis herpetiformis or vitiligo does not convey either etiologic or therapeutic clues. In these cases a complete and thorough history of the case is an absolute necessity and cannot be dispensed with. It is futile and superfluous to ponder which of the *two diagnoses, morphologic or etiologic*, is more impor-

tant. The fact of the matter is that they *are merely the two different stages of one complete diagnosis*. Determination of the morphologic type of skin lesions is the first stage and the etiology is the second.

Therefore, I do not minimize nor deny the value of a history in the final diagnosis, but merely insist that a history should be taken only after the morphologic classification is made. This is particularly advisable for beginners and inexperienced clinicians since the history, as it is commonly taken, offers many false diagnostic clues and traps. In a majority of cases the history is helpful in contributing details of information after the general morphologic identification is made. For instance, in a morphologic diagnosis of an allergic food rash, contact dermatitis or drug rash, the history may indicate this particular food, irritating substance or drug.

It should be clearly understood that while a complete history is not a necessity in dermatologic morphologic diagnosis it is absolutely necessary in all systemic dermatoses, for intelligent therapeutics of the case and a proper understanding of the patient as a clinical and biologic unit.

CLINICAL AND LABORATORY DIAGNOSIS

The clinical value of the laboratory in dermatologic diagnosis merits certain elucidation and discussion.

The general laboratory procedures such as urinalysis, blood chemistry, basal metabolism, are of the same value as in general medicine.

Special mention should be made of the Wassermann test, since its value in dermatologic diagnosis is of restricted value. A negative Wassermann is notoriously unreliable and occurs in frank cases of active syphilis. On the other hand, positive Wassermann, while it usually does mean syphilis, does not mean that the present skin lesions are syphilitic for the simple reason that a syphilitic may contract any other type of skin lesion. Furthermore, the diagnostic value of the Wassermann test is restricted by the fact that the morphologic traits of skin syphilis or so-called "specific stigmata" present one of the most constant and reliable dermatologic morphologic syndromes, detected almost unfailingly by a well-trained eye. The morphologic diagnosis of cutaneous syphilis, if properly made, is so reliable that a therapeutic test of specific medication can be safely instituted even in the presence of a negative Wassermann.

BACTERIOLOGIC AND MYCOLOGIC EXAMINATIONS

Bacteriologic and mycologic studies are assuming an ever-increasing importance in clinical dermatology. Possibly the most spectacular recent advance in the dermatologic research has been made in this particular field, the isolation of the epidermophyton fungus as the causative agent of various types of dermatoses comprising an enormous clinical domain. The second large group, the yeast fungi of the monilia type, is just beginning to be uncovered and isolated in a large variety

of dermatoses. The recent increase of coccidioides granuloma may also be mentioned here.

Theoretically, microscopic and cultural study and experimental inoculation should be attempted in each case as a final link in establishing diagnosis. In practice, this is far from being the case for several reasons. The first and most common is the lack of laboratory facilities and of competent bacteriologists and mycologists. The second purely technical reason is that a thorough laboratory procedure such as culturing and animal experimentation requires considerable time, in which contingency the clinician often cannot wait for laboratory diagnosis and must start treatment on the basis of his clinical diagnosis. The third reason is the peculiar topographic location of the skin in human economy and its constant exposure to the air, which renders it a potential habitat to all possible parasites and saprophytes. Thus the flora and fauna of the skin, both in health and disease, is very complex and diversified. Hence many varieties of bacteria and fungi can be found in various dermatoses.

The finding of certain bacteria or fungi in certain dermatoses does not necessarily prove their pathogenicity. They may be present merely as saprophytes. This is particularly true in regard to the yeast cells and staphylococci. In these cases a therapeutic test, the type of clinical behavior, and at times animal inoculation are necessary for a final diagnosis.

The above remarks show that in daily practice bacteriologic study cannot relieve the clinician of his responsibility to make a clinical diagnosis.

TECHNIQUE OF DERMATOLOGIC DIAGNOSIS

The few fundamental points of the technique of dermatologic diagnosis should be impressed on the mind of the clinician and be cultivated and practiced by him until they become a subconscious and automatic habit. The first is the *absolute importance of good daylight*. Differential dermatologic diagnosis is based on very delicate shadings of color. Poor daylight and, still more, artificial light, so changes the color of the lesions that no definite conclusions can be reached. No definite dermatologic diagnostic statements should be made in the evenings.

Bearing on the same point, it is of importance to keep the temperature of the examining room just warm enough to be comfortable to the skin. Too high temperature flushes the skin surface, exaggerating erythematous features; too low temperature chills the body and, by contracting the cutaneous vasomotor network, produces the so-called "marble skin" and distorts the natural color of the lesions.

Also it is of the utmost importance not to allow patients to select their own position but to place them so as to get the maximum light available on all parts to be examined.

Another point, the practical importance of which cannot be too strongly emphasized and yet, which is constantly violated in practice, is *not to be satisfied with the examination of the part of*

the eruption exhibited by the patient but to see all of it and, if necessary, the whole surface of the body.

The most important principle of dermatologic differential technique is that a dermatosis cannot be identified or recognized by the general pictorial pattern or design of the eruption.

Skin diseases present an endless variety of clinical pictures modified in the course of their clinical evolution by numerous external and internal incidental factors so that different nosologic forms may present a striking general resemblance in pictorial design. However, *while dermatoses have no pathognomonic or static pictorial design by which they can be identified, each dermatosis, recognized as an independent nosologic entity, has a certain number of characteristic morphologic traits, the presence of which in toto or in majority renders its diagnosis certain or at least likely.*

TECHNIQUE OF THE DIFFERENTIAL DIAGNOSIS

The first step in dermatologic diagnosis is the detailed description of the composite morphologic picture and of the individual lesions. Among the important morphologic traits which should enter the description are: the color and shape of the lesions, their distribution and localization, whether they are discrete and well defined, or diffuse and ill defined, whether they are circinate, linear or irregular in shape. This is a matter of great importance. The exact color of the lesions must be given. Dermatologic diagnosis often hinges on very delicate shades of color. Whether the lesion is pink, bright, angry red or dusky red, cyanotic, violaceous, purpuric, yellowish or pale white, matters greatly in differential diagnosis.

Primary lesions must be described first, macules, papules or vesicles, and, secondary, scales, crusts, excoriations, fissures, ulcers, pigmentations, infection or lichenification, after.

The *method of involution of the lesions* is of utmost diagnostic importance and should never be omitted. Whether the lesions have tendency to produce ulcerations and scars or a loss of hair, whether the vesicular lesions remain unbroken and heal up by desiccation, or break open spontaneously or by scratching, may decide diagnosis one way or another.

Equally important is to state the method of distribution and dissemination of the original lesions, whether they show marginal activity and spread through the extension of the edges, through contact of the contiguous parts, or spring up simultaneously on different widespread parts of the body.

Each dermatosis accepted as an independent nosologic entity (such as eczema, *i. e.*, dermatitis, lichen planus, psoriasis, syphilis, scabies) has several characteristic morphologic traits which are present in majority or *in toto* in fully developed cases.

After detailed morphologic description the clinician must determine which particular dermatosis the present morphologic syndrome would fit the

best. The *correct technique of morphologic differential diagnosis calls both for a positive and a negative check-up*, which means that the clinician must prove not only why this particular case should be diagnosed as eczema, but also why it could not be taken for psoriasis, seborrhea or any other dermatosis having a general pictorial resemblance with his case.

This procedure may seem tedious and long, but is the only rational way, particularly for a beginner, to arrive at a correct diagnosis and guard against groping in the darkness of false diagnostic clues. Gradually with the accumulation of experience and the repetition of the procedure, a skill and rapidity of the technique develops which may well simulate a snapshot diagnosis. It is to be remembered *that the presence or absence of one or two characteristic morphologic traits does not indicate or rule out a certain dermatosis. It is the presence of the majority of its characteristic morphologic traits which determines the positive diagnosis of a certain dermatosis.*

(To be continued)

A DIAGNOSTIC STUDY OF INDUSTRIAL MEDICINE*

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BEFORE proceeding to a definite discussion of various factors in industrial medicine some allegorical references may be in order.

AN ALLEGORICAL REFERENCE

Industrial medicine, a struggling youth of twenty years comes to us complaining of headache, palpitation of the heart, pains in the muscles and joints, loss of weight, and a feeling of general weakness.

The family and personal history show a gradual development of activities with the usual childhood and adolescent difficulties.

In the physical examination of this patient, let us assume that the medical profession represents the head. We find that the eyes show a considerable degree of myopia; the hearing is definitely impaired in both ears; a further examination of the right eye shows the presence of a sarcoma of the fee-splitting variety. Mental tests give the impression that there has been lack of coördinative planning and administration.

Let the heart represent industrial executives. Here there is a definite valvular leakage and there are "missed beats" and palpitation on the slightest exertion.

The lungs correspond to industrial commissions and boards. The findings show considerable dullness, whispered bronchophony and many fine râles at both apices.

* From the Division of Industrial Health, National Safety Council, Chicago, Illinois.

* Given before the sixth annual meeting of the Michigan Association of Industrial Physicians and Surgeons, at Detroit, April 28, 1931.